

AMENDMENTS TO THE DRAWINGS

The attached six (6) sheets of drawings are replacement formal drawings to replace FIGS. 1 – 5 previously filed on June 5, 2005. In addition, sheet 4/6, in Figure 3C, the second “P₅” has been amended to read “P₆” in order to comply with the Examiner’s objection under 37 C.F.R. 1.12(d). The attached Replacement Sheets replace the drawing sheets originally filed in this application. Applicants respectfully submit that the amendment to the drawings do not constitute new matter.

REMARKS

1. In response to the Office Action mailed May 25, 2005, Applicants respectfully request reconsideration. Claims 1-18 were originally presented. In the outstanding Office Action, all claims were rejected. By the foregoing Amendments, no claims have been amended, cancelled or added. Thus, upon entry of this paper, claims 1-18 will remain pending in this application. Of these eighteen (18) claims, three (3) claims (claims 1, 7, and 13) are independent. Based on the above Amendments and following Remarks, Applicants respectfully requests that all outstanding objections and rejections be reconsidered, and that they be withdrawn.

Objections to the Drawings

2. The Examiner has objected to the drawings under 37 C.F.R. § 1.121(d) because Figure 3C contains two fifth periods "P₅". The drawing sheets attached hereto include a replacement drawing sheet for Figure 3C. This drawing sheet amends Figure 3C to replace the second "P₅" with "P₆." Withdrawal of this objection is, therefore, respectfully requested.

3. Applicants have also submitted formal drawings attached hereto to replace the informal drawings filed on June 5, 2002. Accordingly, Applicants respectfully submit that the replacement drawings do not constitute new matter. Applicants respectfully request that the Examiner enter the formal drawings as attached in "Appendix A."

Foreign Priority

4. Applicants note with appreciation Examiner's acknowledgement of foreign priority under 35 U.S.C. §119, and further acknowledgment of receipt of certified copies of the priority documents.

5. Applicants acknowledge receipt of form PTO-892 listing additional references identified by the Examiner.

6. Applicants thank Examiner for returning form PTO-1449 filed by Applicants on January 11, 2002, which has been initialed by the Examiner indicating consideration of the references cited therein.

7. Applicants thank Examiner for returning form PTO-1449 filed by Applicants on and June 1, 2004, which has been initialed by the Examiner indicating consideration of the references cited therein.

Information Disclosure Statement

8. The Examiner asserts that Applicants' listing of references is not a proper information disclosure statement. Applicants respectfully submit that Examiner has misconstrued the necessary disclosure rules. In accordance with 37 CFR. 1.56(a), Applicants have a duty to disclose to the Office "all information known to that individual to be material to patentability . . . there is not duty to submit information that is not material to the patentability of any existing claim." Applicants respectfully submit that they have satisfied their duty to disclose in the present application and the references referred to in the specification are provided for background information only, and not related to the patentability of Applicants' claimed invention.

Claim Rejections Under 35 U.S.C. §103(a)

9. The Examiner has rejected claims 1, 5-7, 11-13, and 16-18 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 5,800,475 to Jules. (hereinafter, "Jules") in view of U.S. Patent No. 6,289,247 to Faltys *et al.* (hereinafter, "Faltys"). Furthermore, the Examiner has rejected claims 2-4, 8-10, and 14-15 under 35 U.S.C. §103(a) as being unpatentable over Jules in view of Faltys in further view of U.S. Patent Number 4,441,202 to Tong (hereinafter, "Tong").

10. Specifically, the Examiner asserts that Jules "teaches applicant's basic inventive concept." (See, Office Action, page 3.) Moreover, the Examiner expressly states that the "Examiner considers measuring the instantaneous energy of a sound signal as disclosed by Jules to include estimating the amplitude/magnitude of the frequency bands, and considers time distribution determining means as disclosed by Jules to include estimating the period of the frequency bands." (See, Office Action, page 4.)

11. The Examiner then asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to “modify the microprocessor of Jules to include the selector means as described by Faltys in order to transmit only stimulation corresponding to the highest energy content.” (*See*, Office Action, page 5.)

12. Applicants respectfully traverse this rejection. First, Jules fails to “teach applicant’s basic inventive concept” as alleged by the Examiner. Specifically, Jules fails to teach or suggest a plurality of bandpass filtering means and signal processing means responsive to said plurality of bandpass filtered signals. In fact, Jules expressly teaches away from the use of bandpass filtering means in a device of the present invention. Jules also fails to teach or suggest a period estimation means that are responsive to the filtered signals. Furthermore, Jules fails to teach or suggest amplitude estimation means responsive to the filtered signals. Therefore, there is no teaching or suggestion in the art of record to create a tissue-stimulating device as claimed by the present invention. Based on these facts, Applicants respectfully assert that a *prima facie* case of obviousness has not been made out by the Examiner, requiring withdrawal of the outstanding §103 rejection.

13. In the rejection of claim 1, the Examiner failed to allege that Jules teaches a bandpass filter. Claim 1 recites, in part, “a cochlear implant having . . . a plurality of bandpass filtering means responsive to said electrical signal and operatively producing a plurality of bandpass filtered signals.” The Examiner’s failure to demonstrate that Jules teaches a bandpass filter apparently stems from the fact that Jules teaches away from the use of bandpass filtering means. Jules suggest that “electronic filters used for the decomposition of the sound spectrum do not work rapidly enough . . . and additionally they die out progressively as the frequency of the input leaves the passband of the filter.” (*See*, Jules, Col. 2, Lines 56-61). Therefore, because Jules teaches away from the use of bandpass filters, the Examiner’s reliance on Jules is misplaced and the rejection should be withdrawn.

14. Furthermore, claim 1 further recites, in part, “a cochlear implant having . . . period estimation means, responsive to said filtered signals and operatively generating periodicity signals . . .” and “having . . . amplitude estimation means responsive to said to said filtered signals and operatively generating magnitude signals.” As noted above, the Examiner asserts that these features of the claimed invention are taught by Jules’ means of

“measuring the instantaneous energy” and Jules’ means of “time distribution” determination. (*See*, Office Action, page 4.) However, the means disclosed in Jules fail to perform period estimation or amplitude estimation. Rather than using a bandpass filtering system, Jules teaches decomposition of a sound spectrum into its frequency components by using a “wavelet transform.” (*See*, Jules, Col. 3, Lines 7-15.) Essentially, the signals obtained at the output of “wavelet transform” have two “cues” imbedded there within, a cue for the energy per frequency or per frequency band and a time per frequency or per frequency band. (*See*, Jules, Col. 3, Lines 16-20.)

15. In the Office Action the Examiner asserts that a “control circuit decodes the cues . . . and produces sequences for operating electrodes. (*See*, Office Action, page 4). The Examiner assertions attempt to liken these “wavelet transform” cues to the amplitude estimation means of the present invention. However, Jules fails to teach or suggest how the “measuring of the instantaneous energy” relates to the amplitude estimation means of the present invention, or even how the “means for determining the time distribution” relates to amplitude and period estimation means respectively. In fact, nowhere does Jules equate “instantaneous energy” to amplitude as the Examiner suggests rather Jules suggests that “instantaneous energy” and amplitude have distinct and separate meanings. Thus, because Jules fails to teach or suggest amplitude and period estimation means, the Examiner’s reliance on Jules is misplaced. Therefore, Applicants respectfully submit that the rejection of claim 1 is improper and should be withdrawn.

16. Claim 7 recites, in part, “a cochlear implant having . . . a plurality of bandpass filtering means responsive to said electrical signal and operatively producing a plurality of bandpass filtered signals.” Moreover, claim 7 further recites, in part, “a cochlear implant having . . . period estimation means, responsive to said filtered signals and operatively generating periodicity signals and “having . . . amplitude estimation means responsive to said to said filtered signals and operatively generating magnitude signals.” Applicants respectfully submit that the cited references fail to teach or suggest all of these, and other, claimed elements. Accordingly, for at least the same reasons as noted above with respect to claim 1, claim 7 is patentable over the art of record.

17. Claim 13 recites, in part, “a method of operating a cochlear implant prosthesis of the type including a plurality of bandpass filters . . . said filters generating a corresponding

plurality of filtered signals.” Accordingly, for at least the same reasons as noted above with respect claim 1, claim 13 is patentable over the art of record.

18. Applicants further submit that Examiner’s reliance on Faltys and Tong were also misplaced. Faltys and Tong fail to teach or suggest that which is missing from Jules.

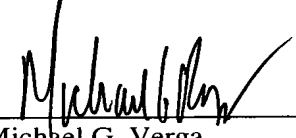
Dependent Claims

19. The dependent claims incorporate all of the subject matter of their respective independent claims and add additional subject matter, which makes them a fortiori and independently patentable over the art of record. Accordingly; Applicants respectfully request that the outstanding rejections of the dependent claims be reconsidered and withdrawn.

Conclusion

20. In view of the foregoing, this application should be in condition for allowance. A notice to this effect is respectfully requested.

Respectfully submitted,



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October 25, 2005

Appendix A
Replacement Drawing Sheets